

PS



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,363	01/15/2004	Thomas John Ford	16437-0208U	5311
24267	7590	07/06/2006	EXAMINER	
CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210			ISSING, GREGORY C	
			ART UNIT	PAPER NUMBER
			3662	

DATE MAILED: 07/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,363

Applicant(s)

FORD ET AL.

Examiner

Gregory C. Issing

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-14 is/are pending in the application.
- 4a) Of the above claim(s) 9 and 10 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 and 8 is/are allowed.
- 6) ☐ Claim(s) 11, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 3662

1. It is initially noted that claims 9-10 have been withdrawn from consideration. The applicants' amendment of such claims is not considered since the claims have been withdrawn in light of the restriction requirement. Claims 9-10 are required to be cancelled in response to this Final Office Action.
2. Claims 7-8 are allowable over the prior art of record.
3. Claim 12 is objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim.
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The only "observable " in the independent claim refers to a GPS observable. It is unclear how the "wheel rotation" further limits a GPS observable. It is unclear what the scope of the "other observables" represents.
6. Claims 11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al (*A Complete GPS/INS Integration Technique Using GPS Carrier Phase Measurements*).
7. The rejection is set forth in the previous Office Action.
8. Applicants' argument that the INS Kalman filter uses inertial measurements and delta phase measurements fails to argue the claim limitations. GPS pseudoranges are typical GPS observables that over time measure position change. Applicants' arguments that the GPS subsystem produces delta phase measurements using measurements from a single GPS receiver by taking the difference of measurements taken at two different times with respect to the same satellite and double difference the measurements across GPS satellites fails to argue claim limitations. Applicants' amendment adds nothing to the claim limitation since the purpose of the kalman filter is to update and maintain using past measurements to predict/propagate a solution.

Art Unit: 3662

9. Claims 11, 13, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchler et al (5,543,804).

10. Applicants' argument that the INS Kalman filter uses inertial measurements and delta phase measurements fails to argue the claim limitations. GPS pseudoranges are typical GPS observables that over time measure position change. Applicants' arguments that the GPS subsystem produces delta phase measurements using measurements from a single GPS receiver by taking the difference of measurements taken at two different times with respect to the same satellite and double difference the measurements across GPS satellites fails to argue claim limitations. Applicants' amendment adds nothing to the claim limitation since the purpose of the kalman filter is to update and maintain using past measurements to predict/propagate a solution.

11. Claims 11, 13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Coatantiec et al (2004/0239560).

12. Applicants' argument that the INS Kalman filter uses inertial measurements and delta phase measurements fails to argue the claim limitations. GPS pseudoranges are typical GPS observables that over time measure position change. Applicants' arguments that the GPS subsystem produces delta phase measurements using measurements from a single GPS receiver by taking the difference of measurements taken at two different times with respect to the same satellite and double difference the measurements across GPS satellites fails to argue claim limitations. Applicants' amendment adds nothing to the claim limitation since the purpose of the kalman filter is to update and maintain using past measurements to predict/propagate a solution.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3662

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (571)-272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Gregory C. Issing
Primary Examiner
Art Unit 3662

gci